

FOSSIL POLLEN FROM KULCURN STATION, CAL LAL, SOUTHWEST N.S.W., AUSTRALIA

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Three samples were submitted for pollen analysis by Mr. E. D. Gill in 1969, and were processed in the "clean-air" Palynological Laboratory at Monash University. The slides with the pollen residues are housed in the slide collection of the Botany Department, Monash University, Melbourne, Victoria.

The provenance of each sample is as follows:

- Sample 1. CHG-78. Gray clayey sand from base of "Homestead Cliff", Kulcurna Station, N.S.W., Site 3. Coll. 26 April 1968. Parilla Sand.
- Sample 2. CHG-80A. Clay from thin band on E. bank of Salt Creek at S. end where Blanchetown Clay lenses out into Chowilla Sand, Kulcurna Station, N.S.W., Site 2. Coll. 26 April 1968.
- Sample 3. CHG-80B. Black clayey sand from thin band in middle of "Homestead Cliff", Kulcurna Station, N.S.W. Site 3. Coll. 26 April 1968 from near homestead windmill. Top of Parilla Sand below Chowilla Sand.

The amount of pollen in Sample 2 was very low, and no pollen was found in samples 1 and 3.

The quantitative analysis of pollen when it is present in small amounts is tedious, and very expensive reckoned in man-hours. Further counting seemed unlikely to yield any significant change in frequency. The frequency of occurrence of pollen grains in sample 2 is listed below.

No. of grains counted

| | |
|----------------------|-------|
| <i>Eucalyptus</i> | 58 |
| <i>Callitris</i> sp. | 13 |
| Chenopodiaceae | 13 |
| Poaceae | 1 |
| Cyperaceae | 1 |
| Asteraceae | 11 |
| <i>Plantago</i> sp. | 1 |
| <i>Rumex</i> sp. | 1 |
| <i>Acaena</i> sp. | 1 |
| | <hr/> |
| | 100 |
| | <hr/> |

Sporomorphs present in sample in frequencies less than 1% but seen on scanning through the slides, include:

Casuarina sp.
Grevillea sp.

Some of the eucalyptus pollen is similar to *E. camaldulensis* and some is similar to *E. largiflorens*.

The high chenopod to grass ratio indicates a saline marsh flat rather than chenopod shrub steppe. The presence of *Plantago*, *Rumex* and *Acaena* with high compositae is compatible with this interpretation.

No *Leptospermum* or shrub Myrtaceae pollen grains were found. This indicates an open understory with little myrtaceous scrub.

In conclusion, the pollen evidence indicates vegetation, comprising mixed *Eucalyptus-Callitris* woodland flanking a samphire marsh.